

AMENDMENTS TO THE SPECIFICATION

Please amend paragraphs 0001, 0003-0009, 0011-0013, 0027 and 0030 as follows:

1. Technical Field of the Invention

[0001] ~~The present invention relates to a method~~ Methods of manufacturing a flash memory devices are disclosed, and more particularly, ~~to a manufacturing method~~ is disclosed that is capable of stabilizing a threshold voltage of a flash memory device which uses a high voltage.

Please amend paragraphs 0003 - 0009 as follows:

SUMMARY OF THE INVENTION DISCLOSURE

[0003] ~~The present invention is directed to a method~~ Methods of manufacturing a flash memory device are capable of obtaining a uniform and stabilized doping profile for controlling a threshold voltage.

[0004] ~~One aspect of the present invention is to provide a~~ One disclosed method of ~~manufacturing a flash memory device, comprising the steps of~~ comprises: performing an ion implantation for controlling a threshold voltage on a semiconductor substrate; performing a spike annealing for controlling a doping concentration and a doping profile of an implanted dopant; forming a device isolation film for isolating an active area and a field area on the semiconductor substrate; forming a gate electrode in which a tunnel oxide film, a floating gate electrode, a dielectric film, and a control gate electrode are deposited on the active area; and performing an ion implantation for forming junctions on the semiconductor substrate in both sides of the gate electrode to form a DDD junction structure.

[0005] ~~In the aforementioned of a method of manufacturing a flash memory device according to~~ another embodiment ~~of the present invention~~, the ion implantation for

controlling a threshold voltage is performed by using a p-type dopant with an ion implantation energy of 5 KeV to 50 KeV and a dose of $1\text{E}11$ ion/cm² to $1\text{E}13$ ion/cm².

[0006] In ~~the aforementioned of a method of manufacturing a flash memory device according to~~ another embodiment of the present invention, BF_2 is used as the p-type dopant.

[0007] In ~~the aforementioned of a method of manufacturing a flash memory device according to~~ another embodiment of the present invention, the spike annealing is performed under NH_3 , H_2 , or N_2 atmosphere at a temperature in the range of 900°C to $1,100^\circ\text{C}$ with a heating rate of $100^\circ\text{C}/\text{sec}$ to $250^\circ\text{C}/\text{sec}$.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The aforementioned aspects and other features ~~of the present invention~~ will be explained in the following description, taken in conjunction with the accompanying drawings, wherein:

[0009] Figs. 1A to 1D are cross-sectional views for explaining a disclosed method of manufacturing a flash memory device ~~according to the present invention~~; and

DETAILED DESCRIPTION OF PRESENTLY PREFERRED EMBODIMENTS

[0011] The ~~present invention~~ disclosed methods will be described in detail by way of ~~the a~~ preferred embodiment with reference to the accompanying drawings, in which like reference numerals are used to identify the same or similar parts.

[0012] According to an embodiment ~~of the present invention~~, the DDD junction is used as a junction for a high voltage NMOS in an X-decoder transistor or a cell transistor of an NAND flash device. This is because a high voltage is applied to a p-well area and a junction area of the aforementioned transistors. In order to increase a breakdown voltage in preparation for application of the high voltage, a post thermal treatment is performed by a

BF₂ ion implantation and a spike annealing. This allows a flash memory device to be electrically stable due to decrease of concentration of the dopant remaining in the channel junction area.

[0013] Figs. 1A to 1D are cross-sectional views for explaining a disclosed method of manufacturing a flash memory device ~~according to the present invention~~.

[0027] As described above, ~~according to the present invention~~, it is possible to obtain a uniform doping profile for controlling a threshold voltage and stabilize it by the spike annealing after the ion implantation for controlling a threshold voltage.

[0030] Although the foregoing description has been made with reference to the preferred embodiments, it is to be understood that changes and modifications ~~of the present invention~~ to the disclosed methods may be made by the ordinary skilled in the art without departing from the spirit and scope of ~~the present invention~~ this disclosure and the appended claims.